



# Replacement Memorandum

**TO: RULES COMMITTEE**

**FROM:** Councilmember Sam Liccardo  
Councilmember Rose Herrera

**SUBJECT: RESTORING NEIGHBORHOOD  
STREET LIGHTS**

**DATE:** December 10, 2013

**APPROVED**

## RECOMMENDATION:

Direct the City Manager:

1) In coordination with Prospect SV, and with the City's recently-selected energy services company, Chevron Energy Solutions, explore the feasibility of creating a multi-block or district-wide project with for the installation of "Smart Poles", consistent with Council Policy 0-40 (Framework for Establishing Demonstration Projects) over a geographic area that includes some portion of streets with longstanding street light outages (i.e., due to malfunction or wire theft). Include in those discussions Phillips and any other companies willing to construct and install "smart poles" without any capital cost to the City.

2) For the December 17, 2013 Council meeting, pull Item 2.21 from consent for discussion and direct the City Manager:

a. To provide cost estimates for (a) the targeted installation of metal locking lids on the light poles located in the 20% most frequent locations for wire theft in the city, and for (b) the sealing of all light poles with epoxy treatment; and

b. To begin discussions with relevant bargaining groups to create a pay classification for qualified electricians that will ensure a pay rate sufficient to ensure interest for both hiring and retention.

3) Through our representatives to the Cities Association of Santa Clara County and the Association of Bay Area Governments:

a. explore the creation of a regional pact requiring the licensing of recycling centers, junk dealers, weightmasters, and other buyers of nonferrous metals ("metal dealers"), such that metal dealers must:

- Require that all metal sellers/customers provide the dealers with relevant information from government-issued identification (CDL #, SSN #, DOB, etc.) and physical address;

- Provide such information to law enforcement upon proper request;
  - Utilize check or payment other than cash for any metal purchase, and that payment be mailed to the seller's physical address several days after the transaction; and
- b. explore alternative methods of identifying publicly-owned copper wire and preventing its theft and resale to recyclers, including color-coding, and conduit locking; and work with other jurisdictions and states to identify any other successful strategies that could be deployed here in San José and the region.

## **BACKGROUND:**

### **Streetlights and Electricians**

Street light outages have become a serious public safety problem in San José and other Bay Area cities, leaving already-vulnerable neighborhoods in the dark for months due to long repair backlogs. Over 85% of the streetlight outages require something more than a simple bulb replacement, such as the reinstallation of stolen copper wire, or a more challenging fix of electrical malfunctions. In particular, some 244 copper wire thefts throughout San José thefts have left 941 streetlights out for several months at a time, not counting the 1,991 outages that the City's streetlights crews have already repaired.

Typically, repair requires far more than mere bulb replacement, as some 86% of the streetlight outages need the reinstallation of stolen copper wire or the repair of an electrical malfunctions. Members of the City's only electrical streetlight repair crew have done an admirable job to stem the tide of new outages with very limited resources, having repaired a record 15,091 outages in the last fiscal year alone.

Nobody disputes that we need more electricians to deal with the problem, however. The backlogs promise to worsen unless we can hire two more crews. Hiring outside electricians through a union hall will require the City to pay a premium over city pay rates, and contracting out to a private entity can cost the City as much as twice the cost of a City-staffed crew. Accordingly, the City should hire—and quickly—to stem the growing backlog of streetlight outages.

### **A "Smart Pole" Project**

Often, when we're up to our ears in alligators, the last thing we consider is draining the swamp. Although we need to devote resources to repairing street lights, we might more easily simply replace the existing poles with more secure street lights in some neighborhoods.

Here, one solution dovetails with the solution to a different problem: the rapidly-growing demand for wireless data and network access. Driven by mobile devices like smart phones and tablets, the anticipated 12-fold increase in global mobile traffic in the next half-decade poses an enormous challenge to both mobile carriers and residents, especially in dense urban areas. Cell carriers will need to triple the number of cell sites in order to maintain 4G/LTE network capacity in dense cities. Fortunately, the technology has emerged to the point that small cells can now be feasibly installed on building facades, street furniture and common street infrastructure, such as light poles.

A well-known brand, Philips, is leading an initiative, Connected City Experience, which would present San José residents with an innovative opportunity. Through a public-private partnership, they ultimately seek a long-term lease concession for street lighting poles that allows the companies to generate revenue through cellular site rental services to telecom providers. Philips proposes to integrate the cells and base stations with existing street furniture—primarily street light poles.

The installation of these “smart poles” allows the City to benefit from a free upgrade to state-of-the-art LED street lighting, a crucial need given our long-standing challenges getting lights repaired, and the lack of resources needed to complete the retrofit of outmoded lights to LED “smart” lights. Although the Mayor’s Green Vision calls for us to install LED lights citywide by 2022, we have converted only about 3,000 of our 63,000 lights – roughly 5% of the total-- so far, with sufficient funding to convert another 2,000 lights in 2014-2015.

Ultimately, a successful pilot could present the City with a longer-term opportunity, as the “smart poles” could provide a platform for additional “smart City” functions, such as providing electric vehicle charging, smart metering, and traffic data-gathering sensors. Full build-out citywide could rely on financing through a Special Purpose Vehicle (SPV). Capital investment, operations costs, and cell site rental revenues can be managed through the SPV, which carries the assets on its balance sheet, and ensures that the City will not need to raise incremental debt for the updated smart city infrastructure.

Working with Prospect SV, the City’s ESCO (Chevron Energy Solutions) and the Department of Transportation, we seek to provide the Philips team with an opportunity to identify a geographic service area for a project that can serve multiple objectives of the City’s: replacing long-unrepaired street lights, upgrading to environmentally-superior LED’s, implementing remote light management for dimming and “smart lighting,” reducing lighting costs, and expanding our “smart pole” infrastructure. Naturally, since Philips is footing the bill, the targeted geographic area should also serve their objectives for generating revenue from telecom service providers.

There is little risk that extracting some (or all) city streetlights from such an Energy Conservation Measure (ECM) will undermine Chevron/Chevron Energy Solutions financing effort, as staff has already conceded that "standing alone, the implementation of LED streetlights likely does not create sufficient projected savings to pay for the cost of implementation." (page 4 of Jan. 22, 2013 Dave Sykes memorandum on item 3.5 of the February 12, 2013 council agenda). Eliminating LED light replacement from the bundle of ECM’s may allow for other ECM’s to be bundled with the remaining higher-savings ECM’s. This creates a unique win-win: more energy conservation, and implementation of LED lighting on dark city streets. The improved safety and quality of life of this measure comes at no capital cost to the City.

By leveraging the innovation for which this Valley has become globally renowned, we can find an opportunity that addresses multiple goals—the most important being the safety of our community—and appears worthy of our exploration.